



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,049	10/10/2003	Thomas L. Treon	MIDTF / 350P2	3253
26875	7590	11/26/2004	EXAMINER	
WOOD, HERRON & EVANS, LLP			RO, BENTSU	
2700 CAREW TOWER			ART UNIT	
441 VINE STREET			PAPER NUMBER	
CINCINNATI, OH 45202			2837	

DATE MAILED: 11/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/684,049	<b>Applicant(s)</b> TREON, THOMAS L.	
	<b>Examiner</b> Bentsu Ro	<b>Art Unit</b> 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.  
     4a) Of the above claim(s) 31 and 32 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-29 is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-17, 19 and 30 is/are rejected.
- 7) ☒ Claim(s) 14 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/26/04, 2 sheets</u> . | 6) <input type="checkbox"/> Other: ____  |

## FIRST OFFICE ACTION

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-30, drawn to patient support apparatus, classified in class 318, subclass 504.
  - II. Claims 31 and 32, drawn to a program product for a patient support apparatus, classified in class 388, subclass 907.5.
2. Inventions patient support apparatus and program product are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because a patient support apparatus does not necessarily use a program product. The subcombination has separate utility such as a program product used in a vehicle.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with applicant's attorney (Mr. Scholer) on Nov. 18, 2004 a provisional election was made presumably without traverse to prosecute the invention of Group I, claims 1-30. Affirmation of this election must be made by applicant in replying to this Office action. Claims 31 and 32 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

The non-elected claims should be canceled in response to this office action.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4, 12, 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Petzon et al US Patent No. 3,716,876.

Claims read onto Petzon et al teaching as follows:

<u><b>The claims:</b></u>	<u><b>Petzon et al teaching:</b></u>
<p>1. A method of positioning a patient support apparatus,</p> <p>powered by a line voltage</p> <p>at a desired speed,</p> <p>comprising:</p> <p>receiving a control signal indicative of the line voltage applied to the patient support apparatus; and</p>	<p>Fig. 1 shows a method and an apparatus for positioning a hospital bed 10;</p> <p>Fig. 2 shows an AC line voltage at terminals 1 and 2;</p> <p>when the motor runs at a steady-state, the motor speed is then at a desired speed;</p> <p>this limitation, according to applicant's disclosure, page 7, first full paragraph and Fig. 1, is the controller 36 receives a control signal from the input device 38, the input device can be a switch;</p> <p>Petzon et al teach a similar feature; in Fig. 2, Petzon teaches a hand controller 34, the hand controller 34 has manual switches 68 and 70; thus the turn ON of either one of the manual switch 68, 70 by a user is "receiving a control signal indicative of the line voltage applied to the patient support apparatus";</p>

driving a motor configured to move the patient support apparatus at the desired speed using the control signal.	when either one of manual switches is turned ON (for example, the manual switch 68 is turned ON toward the upper contacts 4 and 7), the solid state switch 80 and the light 72 are ON ; the photo cell 52 receives a light signal from the light 72 to actuate the solid state switch 44 to turn ON the motor forward winding 40 to run the motor in a forward direction to move the hospital bed 10; once the motor is ON, the motor should reach a steady-state speed in a split of second, which steady-state speed is a desired speed.
4. The method of claim 1, wherein receiving the control signal further includes receiving input from a voltage regulator device.	Fig. 2 shows a shield transformer 60, which is a voltage regulator device.
12. The method of claim 1, wherein driving the motor further includes generating the control signal.	the turn-ON of either switch 68, 70 is a step of generating the control signal.
13. The method of claim 1, wherein receiving the control signal further includes receiving at least one of : directional data indicative of a desired direction of movement of the support surface, ....	the directional data is embedded in the control signal, for example, ON of contact 4 or 4' indicates the forward direction of the motor 24 and ON of contact 6 or 6' indicates the reverse direction of the motor 24.

7. Claims 1, 2, 4, 5, 12, 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fuller US Patent No. 5,544,371.

Claims read onto Fuller's teaching as follows:

<p>1. A method of positioning a patient support apparatus, powered by a line voltage</p> <p>at a desired speed,</p> <p>comprising:</p> <p>receiving a control signal indicative of the line voltage applied to the patient support apparatus; and</p> <p>driving a motor configured to move the patient support apparatus at the desired speed using the control signal.</p>	<p>Fuller's Fig. 10 shows a method and an apparatus for lifting a patient, the apparatus is powered by an AC 120 volts power source;</p> <p>Fig. 10 shows a rectifier &amp; speed control device 62 for selecting a desired speed;</p> <p>when a user pushes any one of the up switch 64 or down switch 65, the circuit receives a control signal indicative of the line voltage applied to the patient support apparatus;</p> <p>the rectifier &amp; speed control device 62 drives a motor 50 configured to move the patient support apparatus at the desired speed;</p> <p>it is noted that the control signal from either switch 64 or 65 causes the actuating coils (relay coils) 75, 76 to energize; the energization of the relay coils 75, 76 moves the relay contacts so that the dc voltage from speed control device 62 can pass through the relay contacts to the motor 50, thus, the control signal is used to move the patient support apparatus at the desired speed using the control signal.</p>
<p>2. The method of claim 1, wherein using the control signal further includes customizing the desired speed.</p> <p>4. The method of claim 1, wherein receiving the control signal further includes receiving input from a voltage regulator device.</p>	<p>the speed control device 62 is used for customizing the desired speed.</p> <p>the rectifier is a voltage regulator device.</p>

5. The method of claim 1, wherein receiving the control signal further includes determining a voltage delivered to the motor.	the speed control device 62 is a device for determining a voltage delivered to the motor 50.
12. The method of claim 1, wherein driving the motor further includes generating the control signal.	the switches 64 and 65 generate a control signal.
13. The method of claim 1, wherein receiving the control signal further includes receiving at least one of : directional data indicative of a desired direction of movement of the support surface, ....	the directional data is included in the up/down switches 64, 65.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 15, 17, 19, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuller.

Regarding claim 15, the receiving step reads onto the setting of the speed control device 62. The processing step reads onto the structure inside the speed control device 62. The moving step reads onto the actuation of motor 50.

Regarding claim 15, Fuller does not show the inside structure of the speed control device 62. However, based on the examiner's understanding, the inside structure can be any one of the following:

Art Unit: 2837

- A voltage divider using series resistors to provide a divided voltage to the motor. This method has disadvantage of consuming extra energy by the resistors.
- A multi-steps step down autotransformer to provide different voltages to the motor. This method has disadvantage of higher cost and bulky of transformer.
- A thyristor such as a diac to provide different voltage to the motor by switching the phase angle of the rectified pulsating dc source.
- A Pulse-Width-Modulator to provide modulated pulsating dc source to the motor.

Any one of the above-mentioned methods is a processing step because the rectified dc source must be processed in order to provide a different source to the motor.

Regarding claim 17, Fuller's Fig. 1 shows straps 35. The straps 35 have certain length, therefore, the patient support surface has a limit range of movement.

Regarding claim 19, the input reads onto the setting of the knob pointer 62a. The indicating number 0-10 on the speed control device correlates the speed to a received power level of the motor.

The limitation of claim 30 is similar to claim 15 with (or without) claim 19. Duplicate explanation is deemed unnecessary.

10. Claims 3, 6-11, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuller in view of Kerkman et al US Patent No.5,329,217.

Regarding claims 3 and 6, Fuller does not show a voltage sensor for determining line voltage.

However, using a voltage sensor to determine a line voltage is taught by Kerkman et al. Kerkman et al Fig. 1 shows a voltage detector 30.



In view of Kerkman et al teaching it would have been obvious to a skilled person in the art to add a voltage sensor to Fuller's speed control device 62 to achieve the same subject matter as claimed.

Then why???

Fuller's knob and dial 62a shows speed or power level from 0-10. Adding a voltage sensor would indicate the true voltage to the motor. With a true voltage, the feeling of power to the motor would be more realistic.

Regarding claim 7, Kerkman's Fig. 4 shows a reference voltage  $V_{bus}/2$  and a determined voltage VMAG. The reference voltage  $V_{bus}/2$  and the determined voltage VMAG are compared in a summing block 52.

Regarding claims 8-11, 16, Kerkman uses PWM voltage inverter to control the speed of the motor. The PWM is a duty cycle control that adjusts the motor speed based on a reference signal (the resolver 22).

11. Claims 14 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claims 20-29 are allowable.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication should be directed to Bentsu Ro at telephone number (571) 272-2072.

11/19/2004

  
Bentsu Ro  
Senior Examiner  
Art Unit 2837